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[54] **GPS RECEIVER USING A MESSAGE SYSTEM FOR REDUCING POWER CONSUMPTION**

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[52] **U.S. Cl.** **342/357**

[58] **Field of Search** 342/357, 386, 342/457; 701/213

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[57] **ABSTRACT**

A message system, global positioning system (GPS) receiver apparatus, and method for providing a fast time to first location fix and a low average power consumption in a GPS receiver. The message system includes a GPS base station for receiving a GPS signal and providing GPS acquisition and location information including GPS satellite visibility, health, and ephemeris; and a message system manager for transmitting a radio message signal including a wakeup call and the GPS information. A message transceiver or receiver receives the radio message signal and passes the wakeup call and GPS information to a GPS receiver having a low power standby mode. The GPS receiver awakens from the standby mode and enters an operational mode for using the GPS information for acquiring the GPS signal and deriving the first location fix. In a first embodiment, the GPS receiver initiates the first fix by requesting the message transceiver to transmit a radio request signal. In a second embodiment, message system initiates the first fix by transmitting the radio message signal.

12 Claims, 6 Drawing Sheets

